

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of	:
	:
First Named Inventor: Ben SAIDI and Mark LINDNER	: Confirmation No. 1441
	:
U.S. Patent Application No. 10/626,048	: Group Art Unit: 2151
	:
Filed: July 23, 2003	: Examiner: Daftuar, Saket

For: METHOD AND APPARATUS FOR SUPPRESSING SILENCE IN MEDIA COMMUNICATIONS

BRIEF ON APPEAL UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Further to the Notice of Appeal filed May 21, 2008, in connection with the above-identified application on appeal, the Appellants respectfully submit this Brief on Appeal. Please charge any fees or credit any overpayments that may be due with this Brief to Deposit Account No. 17-0026.

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I. REAL PARTY IN INTEREST

The real party in interest in this appeal is QUALCOMM Incorporated, 5775 Morehouse Drive, San Diego, California, 92121.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals and/or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are a total of 32 claims pending in the instant application, namely claims 1-25, 27, 29, 31 and 33-36. Claims 1, 7, 13 and 19 are independent.

B. Status of All the Claims

1. Claims cancelled: 26, 28, 30 and 32
2. Claims withdrawn from consideration but not cancelled: none
3. Claims pending: 1-25, 27, 29, 31 and 33-36
4. Claims allowed: none
5. Claims rejected: 1-25, 27, 29, 31 and 33-36

C. Claims on Appeal

Claims on appeal are claims 1-25, 27, 29, 31 and 33-36 as rejected by the Final Office Action.

IV. STATUS OF AMENDMENTS

The Amendment filed November 26, 2007 (adding claims 33-36), has been entered (as stated in the Final Office Action mailed on January 28, 2008).

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 is directed to a method for reducing media transmission latency by suppressing silence frames in a stream of media, including requesting a group call (e.g., see Figure 4, 402) at a first communication device (e.g., see 302, 304, 306 of Figure 3), receiving a stream of media from the first communication device (e.g., see [0025] and Figure 2, receiver unit 254), wherein said stream of media comprises of one or more silence frames and automatically suppressing the one or more silence frames from the received stream of media (e.g., see [0037] – “In one embodiment, some or all of the silence frames situated before the initial media activity immediately after a user is granted floor for media delivery, e.g., initial media spurt, may be suppressed before the media is transmitted over the network.”, see also FIGS. 5-7 and Figure 2, controller 270).

Claim 7 is directed to a computer-readable medium embodying a set of instructions (e.g., see [0054]), wherein the set of instructions when executed by one or more processors includes a set of instructions for requesting a group call (e.g., see Figure 4, 402) at a first communication device (e.g., see 302, 304, 306 of Figure 3), a set of instructions for receiving a stream of media from the first communication device (e.g., see [0025] and Figure 2, receiver unit 254), and a set of instructions for automatically suppressing one or more silence frames from the received stream of media (e.g., see [0037] – “In one embodiment, some or all of the silence frames situated before the initial media activity immediately after a user is granted floor

for media delivery, e.g., initial media spurt, may be suppressed before the media is transmitted over the network.”, see also FIGS. 5-7 and Figure 2, controller 270).

Claim 13 is directed to an apparatus for reducing media transmission latency by suppressing silence frames in a stream of media, including means (e.g., see 302, 304, 306 of Figure 3) for requesting a group call (e.g., see Figure 4, 402) at a first communication device, means (e.g., see Figure 2, receiver unit 254) for receiving a stream of media from the first communication device (e.g., see [0025] – “the reverse link signal is received by an antenna 250, routed through a duplexer 252, and provided to a receiver unit (RCVR) 254”), wherein said stream of media comprises of one or more silence frames and means (e.g., see controller 270 of Figure 2) for automatically suppressing the one or more silence frames from the received stream of media (e.g., see [0037] – “In one embodiment, some or all of the silence frames situated before the initial media activity immediately after a user is granted floor for media delivery, e.g., initial media spurt, may be suppressed before the media is transmitted over the network.”, see also FIGS. 5-7 and Figure 2, controller 270).

Claim 19 is directed to an apparatus for reducing media transmission latency by suppressing silence frames in a stream of media, including a receiver (e.g., see Figure 2, receiver unit 254) capable of receiving information, a transmitter (e.g., See Figure 2, transmitter unit 216) capable of transmitting information and a processor (e.g., see Figure 2, controller 270, [0025]) for automatically suppressing silence frames in a stream of media wherein a stream of media is received from a user and the silence frame from the received stream of media is suppressed (e.g., see [0025] – “Controller 270 may include instructions for receiving media, buffering media, suppressing silence frames in the media, and transmitting the media to a group of target CDs.”).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Examiner has finally rejected claims 1-25, 27, 29, 31 and 33-36 under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,785,262 (“Yao”).

VII. ARGUMENT

Below, the Appellants have provided arguments related with section headers in **bold**.

A. The 35 U.S.C. § 102(e) Rejection of Claims 1-25, 27, 29, 31 and 33-36 is

Improper

1. Yao fails to disclose or suggest automatically suppressing silence frames because Yao teaches frame-dropping at a fixed, predetermined rate without evaluating whether a frame is a silence frame

Independent claim 1 recites in part “automatically suppressing the one or more silence frames from the received stream of media”. This limitation is similarly recited in independent claims 7, 13 and 19. Silence frames correspond to frames (e.g., in an audio or voice communication) that do not actually include information or data.¹ As will now be explained, the manner in which Yao drops frames is not consistent with a reasonable interpretation of this claim limitation.

Yao is directed to a method and apparatus for voice latency reduction in a voice-over-data wireless communication system.² With respect to Figure 8 of Yao, Yao teaches (i)

¹ e.g., see [0002] of the Specification.

² See Yao, Title and Abstract.

analyzing communication system latency (802), (ii) determining whether the latency, as indicated by a frame error rate (FER), is above a threshold (804), and (iii) dropping frames at different fixed rates (806, 808) based on the determination from (ii).³

Communication system latency may be incidentally related to the rate or probability of frames being “silent”, or not including data. However, the threshold used in step 804 of Figure 8 is not established to ensure that dropped frames are silent frames, but is rather selected as part of a probabilistic packet dropping process based on an associated error rate.⁴ Basically, a frame error rate (FER) is compared with the threshold to determine a rate at which to drop packets. Packets are then dropped in a “blind” fashion, at the selected rate.⁵ Thus, Yao simply relies on the assumption that “more” low rate frames (which are not necessarily “silence” frames⁶) will be dropped when FER is above the threshold than when FER is below the threshold.

Any dropped frames, irrespective of whether the rate is lower (e.g., 806 of Figure 8) or higher (e.g., 808 of Figure 8), are based solely on a probabilistic value associated with the selected rate. Thus, if the drop rate is 1 out of every 100 packets, the system of Yao counts up to 100, drops a packet, counts up to 100 again, drops another packet, and so on.⁷ This has nothing to do with whether a particular dropped packet is a silence packet, but merely whether the packets, in general, are expected to include more or less low rate frames, as indicated by the FER. It will be appreciated that this process could drop a media frame that includes data as readily as a low rate frame that includes less data. It is also possible that each dropped frame could be a non-silence frame, again, because frame-dropping in Yao is based on a fixed, rate-

³ See Yao at Figure 8, steps 802-808, and also Col. 19, line 49 – Col. 20, line 41.

⁴ See Yao at Col. 8, line 62 to Col. 9, line 3.

⁵ See Yao at Col. 10, line 67 to Col. 11, line 11, and also Col. 19, line 49 – Col. 20, line 41.

⁶ see Yao at Column 8, line 62 to Column 9, line 3.

dropping schedule, and not a characteristic of any particular frame (i.e., whether the frame is a silence frame).

The arguments presented above were previously provided to the Examiner.⁸ In the Examiner's response to arguments, the Examiner asserted that "[o]ne having ordinary skill in the art would recognize improving channel quality and latency would be possible with/by determining number of silence frames and Yao clearly discloses that dropping silence frames at rate of 1 frame dropped per hundred frames".⁹ However, as discussed above, while Yao indeed discloses counting frames to determine which hundredth frame to drop, these frames are not necessarily silence frames. Accordingly, the Examiner's indication that *silence* frames are dropped at a rate of 1 frame per hundred is a clear mischaracterization of Yao because Yao does *not* disclose that the dropped frame is actually a silence frame.

In view of the above remarks, Applicant respectfully submits that Yao cannot disclose or suggest "automatically suppressing the one or more silence frames from the received stream of media" as recited in independent claim 1 and similarly recited in independent claims 7, 13 and 19. Rather, the suppression of frames is based on the selected frame-dropping rate, not based on whether an actual silence frame is present. In other words, it is possible that the methodology of Yao could miss any silence frames that are present if any silence frames do not align with the selected frame-dropping rate, as discussed above.

As such, claims 2-6, 8-12, 14-18, 20-25, 27, 29, 31 and 33-36, dependent upon independent claims 1, 7, 13 and 19, respectively, are likewise allowable Yao at least for the reasons given above with respect to independent claims 1, 7, 13 and 19, respectively.

⁷ See example provided by Yao at Col. 10, line 66 to Col. 11, line 11.

⁸ See Applicant's response filed on 11/26/07.

Accordingly, Appellants respectfully requests that the Appeal Board withdraw this art grounds of rejection at least for the reasons presented above.

2. The Examiner's position that suppressing silence frames can be achieved without dropping silence frames is not reasonable.

In the Advisory Action, the Examiner has indicated that:

... the claim language [is] directed towards suppressing the silence frame [is] not dropping the silence frame. Therefore, applicant assigned representative is clearly mixing up two different arguments.¹⁰

Applicant respectfully disagrees with the Examiner. The word “suppressing”, in the context of the claims, means reducing. In other words, the number of silence frames are being reduced, in claim 1, for example. Each example from the Specification supports this interpretation.¹¹ Each example from the Specification further describes reducing the number of silence frames by dropping or puncturing certain silence frames from a stream of media.¹²

The Examiner actually cites to Yao in attempting to interpret the claim term “suppressing”, but this is clearly facially improper. The claims should be read in light of the Specification. Just from a common sense standpoint, it is not clear how silence frames can be suppressed, or reduced, within a data stream without dropping at least one silence frames from the data stream.

⁹ See Page 2 of the Final Office Action issued on 1/28/2008.

¹⁰ See Continuation Sheet of 4/14/2008 Advisory Action.

¹¹ e.g., see [0037] of the Specification, and any of FIGS. 5-7.

¹² *Id.*

3. 35 U.S.C. § 102(e) rejection to Yao is improper even based on the Examiner's own assertions

The Examiner's rationale related to what one of ordinary skill in the art would recognize (i.e., with regard to how to modify Yao to achieve claimed invention) is arguably appropriate in a 35 U.S.C. § 103 rejection dealing with obviousness, **but is facially inappropriate in a 35 U.S.C. § 102(e) rejection.** In a proper 35 U.S.C. § 102 rejection, a single reference must be asserted, with additional references or teachings only being relevant to show an inherent feature that is not explicitly set forth in the single reference. The Examiner states "[0]ne having ordinary skill in the art would recognize improving channel quality and latency would be possible with/by determining number of silence frames".¹³ However, nowhere in Yao does Yao actually disclose determining the number of silence frames, or even determining any particular silence frame. Thus, this assertion regarding the alleged recognition of one of ordinary skill in the art appears to be based on obviousness (i.e., on what one of ordinary skill in the art would recognize, not upon what is actually disclosed in Yao) rejection cannot satisfy the requirements of 35 U.S.C. § 102 and **must** be withdrawn.

Further, Applicant submits that the Examiner's rationale is incorrect even when considered under a 35 U.S.C. § 103 framework. In Yao, frames are dropped with absolutely no consideration as to whether any frame is actually a silent frame. Thus, Yao does not disclose **or suggest** automatically suppressing silence frames. Again, it is not clear how any system that drops frames on a fixed schedule can automatically drop silence frames, or any other specific type of frame. Indeed, the Examiner cites to an example from Yao wherein 1 frame out of

¹³ See Page 2, Response to Arguments, of the 1/28/2008 Final Office Action.

every 100 frames is dropped.¹⁴ In this example, how can Yao possibly be certain that the dropped frame would be a silence frame? How can Yao possibly be certain that no silence frames were missed out of the 99 consecutive non-dropped frames? The answer is Yao cannot be certain in either case, as will be appreciated from a review of Yao.

Accordingly, Appellants respectfully request that the Appeal Board withdraw this art grounds of rejection for at least this additional reason.

4. Yao does not disclose or suggest determining whether one or more silence frames occur between successive media or non-silence frames as recited in dependent claims 33-36

In Appellants' response filed on 11/26/2007, claims 33-36 were added. Claim 33, for example, further recited the step "determining whether the stream of media includes one or more silence frames between successive media frames" and suppressing silence frames based on this determining step. This limitation is similarly recited within claims 34-36. The Examiner alleges that claim 33 is anticipated by Yao at Columns 10 line 55 – Column 50.¹⁵ However, this section of Yao merely describes different embodiments where frames are dropped at predetermined, fixed rates¹⁶, or at a variable rate (i.e., based on some type of formula)¹⁷. This section of Yao does not determine whether silence frames occur "between successive media frames", nor does this section imply any such teaching.

Accordingly, Appellants respectfully request that the Appeal Board withdraw this art grounds of rejection as it relates to claims 33-36 for at least this additional reason.

¹⁴ *Id.*

¹⁵ See Page 6 of the 1/28/2008 Final Office Action.

¹⁶ e.g., see Yao at Col. 10, lines 66-67, Col. 11, lines 16-18, Col. 11, lines 25-27, Col. 11, lines 51-52.

¹⁷ e.g., see Yao at Col. 12, lines 30-31.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A include the amendments filed by the Appellants on 11/26/2007.

IX. EVIDENCE

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the Examiner is being submitted.

X. RELATED PROCEEDINGS

No related proceedings are referenced in Section II, above.

XI. CONCLUSION

The Appellants respectfully submit that claims 1-25, 27, 29, 31 and 33-36 are patentable over the applied art and that all of the rejections and objections of record should be reversed.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 17-0026 for any additional fees required under 37 C.F.R. § 1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

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Dated: July 15, 2008

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APPENDIX A: CLAIMS

1. (Previously presented) A method for reducing media transmission latency by suppressing silence frames in a stream of media, the method comprising:

requesting a group call at a first communication device;

receiving a stream of media from the first communication device, wherein said stream of media comprises of one or more silence frames; and

automatically suppressing the one or more silence frames from the received stream of media.
2. (Original) The method of claim 1, wherein said suppressing includes suppressing an initial silence frame situated before a first media frame.
3. (Original) The method of claim 1, wherein said suppressing includes suppressing all initial silence frames situated before a first media frame.
4. (Original) The method of claim 1, wherein said suppressing includes suppressing a silence frame situated between two successive media frames.
5. (Original) The method of claim 4, wherein said suppressing a silence frame includes suppressing the silence frame that is in excess of a predetermined number of silence frames situated between the two successive media frames.

6. (Original) The method of claim 5, wherein said suppressing the silence frame includes suppressing the silence frame that follows a first predetermined number of silence frame following a first media frame and precedes a second predetermined number of silence frame proceeding a media frame subsequent to the first media frame.

7. (Previously presented) A computer-readable medium embodying a set of instructions, wherein the set of instructions when executed by one or more processors comprises:

- a set of instructions for requesting a group call at a first communication device;

- a set of instructions for receiving a stream of media from the first communication device,

- a set of instructions for receiving a stream of media from the first communication device;

- and

- a set of instructions for automatically suppressing one or more silence frames from the received stream of media.

8. (Original) The computer-readable medium of claim 7, wherein said suppressing includes suppressing an initial silence frame situated before a first media frame.

9. (Original) The computer-readable medium of claim 7, wherein said suppressing includes suppressing all initial silence frames situated before a first media frame.

10. (Original) The computer-readable medium of claim 7, wherein said suppressing includes suppressing a silence frame situated between two successive media frames.

11. (Original) The computer-readable medium of claim 10, wherein said suppressing a silence frame includes suppressing the silence frame that is in access of a predetermined number of silence frames situated between the two successive media frames.

12. (Original) The computer-readable medium of claim 11, wherein said suppressing the silence frame includes suppressing the silence frame that follows a first predetermined number of silence frame following a first media frame and precedes a second predetermined number of silence frame proceeding a media frame subsequent to the first media frame.

13. (Previously presented) An apparatus for reducing media transmission latency by suppressing silence frames in a stream of media, comprising:

means for requesting a group call at a first communication device;

means for receiving a stream of media from the first communication device, wherein said stream of media comprises of one or more silence frames; and

means for automatically suppressing the one or more silence frames from the received stream of media.

14. (Original) The apparatus of claim 13, wherein said means for suppressing includes means for suppressing an initial silence frame situated before a first media frame.

15. (Original) The apparatus of claim 13, wherein said means for suppressing includes means for suppressing all initial silence frames situated before a first media frame.

16. (Original) The apparatus of claim 13, wherein said means for suppressing includes means for suppressing a silence frame situated between two successive media frames.

17. (Original) The apparatus of claim 16, wherein said means for suppressing a silence frame includes means for suppressing the silence frame that is in access of a predetermined number of silence frames situated between the two successive media frames.

18. (Original) The apparatus of claim 17, wherein said means for suppressing the silence frame includes means for suppressing the silence frame that follows a first predetermined number of silence frame following a first media frame and precedes a second predetermined number of silence frame proceeding a media frame subsequent to the first media frame.

19. (Previously presented) An apparatus for reducing media transmission latency by suppressing silence frames in a stream of media, comprising:

- a receiver capable of receiving information;

- a transmitter capable of transmitting information; and

- a processor for automatically suppressing silence frames in a stream of media wherein:

- a stream of media is received from a user and the silence frame from the received stream of media is suppressed.

20. (Original) The apparatus of claim 19, wherein said suppressing includes suppressing an initial silence frame situated before a first media frame.

21. (Original) The apparatus of claim 19, wherein said suppressing includes suppressing all initial silence frames situated before a first media frame.

22. (Original) The apparatus of claim 19, wherein said suppressing includes suppressing a silence frame situated between two successive media frames.

23. (Original) The apparatus of claim 22, wherein said suppressing a silence frame includes suppressing the silence frame that is in access of a predetermined number of silence frames situated between the two successive media frames.

24. (Original) The apparatus of claim 23, wherein said suppressing the silence frame includes suppressing the silence frame that follows a first predetermined number of silence frame following a first media frame and precedes a second predetermined number of silence frame proceeding a media frame subsequent to the first media frame.

25. (Previously presented) The method of claim 1 further comprising buffering and then forwarding the suppressed stream of media.

26. (Canceled)

27. (Previously presented) The computer-readable medium of claim 7 further comprising a set of instructions for buffering and then forwarding the suppressed stream of media.

28. (Canceled)

29. (Previously presented) The apparatus of claim 13 further comprising means for buffering and then forwarding the suppressed stream of media.

30. (Canceled)

31. (Previously presented) The apparatus of claim 19 wherein the processor further buffers and then forwards the suppressed stream of media.

32. (Canceled)

33. (Previously presented) The method of claim 1 further comprising:

determining whether the stream of media includes one or more silence frames between successive media frames of the stream of media, each media frame including data; and
wherein the one or more silence frames are suppressed based on the determining step.

34. (Previously presented) The computer-readable medium of claim 7, wherein the set of instructions when executed by one or more processors further comprises:

a set of instructions for determining whether the stream of media includes one or more silence frames between successive media frames of the stream of media, each media frame including data; and
wherein the one or more silence frames are suppressed based on the determining step.

35. (Previously presented) The apparatus of claim 13, further comprising:

means for determining whether the stream of media includes one or more silence frames between successive media frames of the stream of media, each media frame including data; and wherein the one or more silence frames are suppressed based on the means for determining.

36. (Previously presented) The apparatus of claim 19, wherein the processor is further configured to determine whether the stream of media includes one or more silence frames between successive media frames of the stream of media, each media frame including data, and to suppress the one or more silence frames based on the the determination.

APPENDIX B: EVIDENCE

(None)

APPENDIX C: RELATED PROCEEDINGS

(None)